

DOCUMENT RESUME

ED 069 144

EM 010 414

AUTHOR  
TITLE

Goodman, Mark E.  
Mobile Audio Visual Instructional Laboratory Project  
Director's Report 1969-1970. A Title I, ESEA  
Project.

INSTITUTION  
SPONS AGENCY  
PUB DATE  
NOTE

Minneapolis Special School District 1, Minn.  
Minneapolis Public Schools, Minn.  
Jan 71  
15p.; Research Development Federal Programs

EDRS PRICE  
DESCRIPTORS

MF-\$0.65 HC-\$3.29  
\*Audiovisual Aids; Disadvantaged Youth; Federal  
Programs; \*Inservice Education; Instructional  
Materials; Instructional Media; \*Mobile Educational  
Services; \*Teacher Developed Materials  
Elementary Secondary Education Act Title I;  
Minneapolis

IDENTIFIERS

ABSTRACT  
The mobile audiovisual instructional laboratory has been an effective instrument in bringing audiovisual materials into the inner-city schools of Minneapolis, Minn. In 1969-70, a total of 535 classroom teachers in elementary, secondary, and parochial schools received individual instruction in the production and utilization of audiovisual materials. The aim of the project was to provide materials which would improve communication with educationally disadvantaged children. Each day, two reserve teachers were assigned to the school building being serviced by the mobile van, allowing four teachers to receive instruction in the laboratory. The annual budget of \$23,910 was provided by Title I funds. Although the project has not been formally evaluated, response from the teachers has been enthusiastic. It was recommended that a centrally-located audiovisual station be established to provide supplies and further instruction for teachers to make use of on their own time. For related document, see EM 010 413. (Author/JK)

ED 069 147

# Research Development Federal Programs

Minneapolis Public Schools

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Mobile Audio Visual  
Instructional Laboratory  
Project Director's Report  
1969-1970  
A Title I, ESEA Project

Mark E. Goodman

Ideas expressed in this report do not necessarily  
reflect the official position of the Minneapolis  
Public School Administration nor the Minneapolis  
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Research Division  
Office of Research, Development  
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January 1971

**Mobile Audio Visual  
Instructional Laboratory  
1969-1970**

**Summary**

The mobile audio visual instructional laboratory has been an effective instrument in bringing audio visual materials into the inner-city schools. In 1969-70, 535 classroom teachers received individual instruction in the production and utilization of audio visual materials. Twenty-two elementary, six secondary, and eight parochial schools were serviced by the mobile van equipment and personnel.

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The objectives of the project are to provide materials that would improve communication with educationally disadvantaged children. The mobile laboratory reached this objective by providing time to instruct teachers in how to select, utilize, and produce audio visual media materials. Each day, two reserve teachers were assigned to the school building being serviced by the mobile van, allowing four teachers to receive individual instruction from the media specialist in the laboratory.

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Pages 6,7

The annual budget of \$23,910 was provided by the Elementary and Secondary Education Act, Title I. This money paid for the media specialist, the two reserve teachers, some instructional materials, and maintenance of the audio visual laboratory.

See  
Pages 7,8

The project was not formally evaluated; however, response from the teachers has been enthusiastic.

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A recommendation was made that a centrally located audio visual station be established to provide supplies and further instruction to help teachers continue materials production activities on their own time.

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About this report. . . .

All evaluation reports prepared by the Research Division of the Minneapolis Public Schools follow the procedures and format described in Preparing Evaluation Reports, A Guide for Authors, U. S. Department of Health, Education and Welfare.

Readers who are familiar with these Evaluation Reports may wish to skip the first two sections describing the City of Minneapolis and the Minneapolis Public Schools since these descriptions are standard for all reports.

## The City of Minneapolis

The program described in this report was conducted in the Minneapolis Public Schools. Minneapolis is a city of 432,000 people<sup>1</sup> located on the Mississippi River in the southeastern part of Minnesota. With its somewhat smaller twin city, St. Paul, it is the center of a seven county metropolitan area of over 1,865,000, the largest population center between Chicago and the Pacific Coast. As such it serves as the funneling point for the entire Upper Midwest region of the country.

The city, and its surrounding area, has long been noted for the high quality of its labor force. Typically, the unemployment rate in Minneapolis is lower than in other major cities, possibly due to the variety and density of industry in the city as well as to the high level capability of its work force. The unemployment rate in May of 1970 was 3.2%, compared with a 5.5% national rate for the same month. As the economic center of a prosperous region, rich in such natural resources as forests, minerals, water power and productive agricultural land, Minneapolis attracts commerce and workers from throughout the Upper Midwest Region. Many residents are drawn from the neighboring states of Iowa, Wisconsin, Nebraska and the Dakotas as well as from the farming areas and the Iron Range region of outstate Minnesota.

More Minneapolitans work in clerical and sales jobs than in any other occupation. Reflecting its position as a major wholesale-retail center and a center for banking, finance and insurance, three out of ten residents work in clerical and sales occupations. Almost as many (27%) are employed as craftsmen, foremen and operatives, and one out of five members of the work force are professionals, technicians, managers, and officials. Fewer than one out of five (17%) workers are employed in laboring and service occupations.

Minneapolis city government is the council-dominated type. Its mayor, elected for a 2 year term, has limited powers. Its elected city council operates by committee, and engages in administrative as well as legislative action.

Minneapolis is not a crowded city. While increasing industrial development has occupied more and more land, population has declined steadily from a peak of 522,000 in 1950. The city limits have not been changed since 1927. Most homes are sturdy, single family dwellings built to withstand severe winters. Row homes are practically nonexistent, even in low income areas. In 1960, 53% of the housing in Minneapolis was owner-occupied.

Most Minneapolitans are native born Americans, but about 35,000 (7%) are foreign born. Swedes, Norwegians, Germans, and Canadians comprise most of the foreign born population.

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<sup>1</sup>1970 Census estimate

Few non-white citizens live in Minneapolis, although their numbers appear to be increasing. In 1960, only 3 percent of the population was non-white, but it is expected that the 1970 census will reveal that this figure has doubled. About 80% of the non-whites are Black Americans, with most of the remaining non-white population being Indian American, typically Chippewa or Sioux. Only a small number of residents from Spanish-speaking or Oriental origins live in the city. In general, the non-white families are larger than white families. In 1960, non-white residents made up 3.2% of the city's population, but accounted for 7.8% of the children in the city's elementary schools.

Minneapolis has not yet reached the stage of many other large cities in terms of the level of social problems. It has been relatively untouched by racial disorders or by student unrest. Crime rates are below national averages. Mounting concern over law and order, however, is evidenced by the recent election of Mayor Charles Stenvig, a former police detective.

One's first impression is that Minneapolis doesn't really have serious problems of blight and decay. But the signs of trouble are evident to one who looks beyond the parks and lakes and tree-lined streets. As with many other large cities, the problems are focused in the core city and are related to increasing concentrations there of the poor, many of them non-whites, and the elderly. For example 9 out of 10 Black Americans in Minneapolis live in just one-tenth of the city's area. While Minneapolis contains 13% of the state's population, it supports 28% of the state's AFDC families.

There has been a steady migration to the city by Indian Americans from the reservations and poor whites from the small towns and rural areas of Minnesota. They come to the "promised land" of Minneapolis looking for a job and a better way of life. Some make it, many do not. In 1957, the city supported 1 out of 10 of the state's Indian Americans who were on relief; in 1969 the city supported 3 out of 10. The Indian American population is generally confined to the same small geographic areas as the Black Americans. Estimates of their unemployment rate vary, but range as high as 60%. These same areas of the city have the lowest median incomes in the city, and the highest concentrations of dilapidated housing, welfare cases, and juvenile delinquency.

The elderly are also concentrated in the central city. In 1960, Minneapolis had the greatest percentage (13%) of persons over age 65 among the 30 largest cities in the country. The elderly, like the 18-24 year old young adults, live near the central city because of the availability of less expensive housing in multiple-unit dwellings. Younger families have continued to migrate toward the outer edges of the city and surrounding suburban areas.

These few facts about Minneapolis have been presented to help give you some feeling for the locality in which this program took place. Possibly these names can add additional life to the description: Honeywell, Billy Graham, Minnesota Vikings, Guthrie Theatre, Betty Crocker (General Mills), Minnesota Twins, Pillsbury, University of Minnesota, Minnehaha Falls, Minnesota Symphony, and Hubert Humphrey. These are representative of Minneapolis, the City of Lakes.

### The Minneapolis Schools

About 77,000 children go to school in Minneapolis. Most of them, about 68,000, attend one of the city's 97 public schools; 9,000 attend parochial or private schools.

The Minneapolis Public Schools, headed by Dr. John B. Davis, Jr., who became Superintendent in 1967, consist of 68 elementary schools (kindergarten-6th grade), 15 junior high schools (grades 7-9), 9 high schools (grades 10-12), 2 junior-senior high schools, and 4 special schools. Over 3,600 certificated personnel are employed. Control of the public school system ultimately rests with the seven member School Board. These non-salaried officials are elected by popular vote for staggered six year terms. The Superintendent serves as the Board's executive officer and professional adviser, and is selected by the Board.

The system's current operating budget for 1970 is approximately \$62,500,000, up from \$54,100,000 in 1969 and \$48,800,000 in 1968. Per pupil costs were \$587.00 in 1969, up from \$481.00 in 1968. The range of per pupil costs in the state for 1969 was from \$321.000 - \$942.00. The median expenditure for school districts in the seven-county metropolitan area was \$564.00<sup>2</sup>. Close to 40¢ of each local property tax dollar goes for school district levies. The School Board is a separate governmental agency which levies its own taxes and sells its own bonds. Minneapolis also receives federal funds through the Elementary and Secondary Education Act. For the 1968-1969 school year, these funds amounted to approximately \$4.3 million dollars.

One of the Superintendent's goals has been to achieve greater communication among the system's schools through decentralization. Consequently, two "pyramids" or groups of geographically related schools have been formed. First to be formed, in 1967, was the North Pyramid, consisting of North High School and the elementary and junior highs which feed into it. In a similar manner, the South-Central Pyramid was formed, in 1969, around South and Central High Schools. There is a director for each pyramid, as well as advisory groups of principals, teachers, and parents. The goals of the pyramid structure are to effect greater communication among schools and between schools and the community, to develop collaborative and cooperative programs, and to share particular facilities and competencies of teachers.

In 1969 there were 20 elementary schools, 5 junior highs, 3 senior highs, and 12 parochial schools serving children in areas eligible for programs funded under Title I of the Elementary and Secondary Education Act (ESEA). The federal criteria for selecting these schools are based on economic factors, in particular the number of families receiving AFDC and/or having incomes under \$2,000. Approximately 22,000 children attend

<sup>2</sup>Per pupil cost is the adjusted maintenance cost from state and local funds and old federal programs, exclusive of transportation, per pupil unit in average daily attendance for the 1968-69 school year. Source of these figures is Minnesota Education Association Circular 6970-C2, Basic Financial Data of Minnesota Public School Districts, February, 1970.

these schools. Of that number, one-third are defined by the State Department of Education as educationally disadvantaged, i.e. one or more grade levels behind in basic skills such as reading and arithmetic. Federal programs are concentrated on the educationally disadvantaged group.

Based on sight counts, the proportion of Black American pupils for 1969-70 was 8.1%. Five years ago the proportion was 5.4%. Indian American children currently comprise 2.7% of the school population, approximately double the proportion of 5 years ago. The proportion of minority children in the various elementary schools generally reflects the prevailing housing pattern found in each school area. Although some non-white pupils are enrolled in every elementary school, non-white pupils are concentrated in two relatively small areas of the city. Of the 68 elementary schools, 10 have more than 30% non-white enrollment and 4 of these have over 50%. There are no all-black schools nor all-white schools. Thirty-nine elementary schools have non-white enrollments of less than 5%.

The proportion of school age children in AFDC homes has increased from approximately 12% in 1962 to 17% in 1969. In 10 elementary schools, 30% or more of the pupils are from homes participating in AFDC programs.

Turnover rate is the percent of students that come in new to the school or leave the school at some time during the school year (using the September enrollment as a base figure). While the average turnover rate for the city in 1968-1969 was about 60%, this figure varied widely according to location. Target area schools generally experienced a much higher turnover rate; five of these schools had rates of 100% or greater. Eleven Minneapolis schools had turnover rates of 45% or less.

### The Project Schools

Twenty schools designated as "target area" schools, based on the percentage (20% or more) of children from economically deprived homes, were involved. Because of the limited environmental opportunities for developing cognitive and affective learning skills among these children special attention must be devoted to the widespread use of meaningful instructional technology. Most of the children in these schools suffer a combination of learning handicaps which require innovative uses of a variety of audio visual materials and specialized instructional techniques to help them progress at a near normal rate. Because of the continuing problems in target area schools such as, high mobility of both students and staff, racial mix, and marginal incomes, the audio visual instruction program must continuously provide in-service training to the staff of target area schools.

### Historical Background

The Mobile Audio Visual Instructional Laboratory Project has been in operation for the past four years. It began in the summer of 1966, using building locations for a series of workshops. In September 1967, the equipment and materials were installed in a twenty-two foot mobile van which brings in-service training to each building in the project. The project was originally initiated to provide audio visual instruction for teachers who had access to considerable quantities of new equipment and materials with which they were unfamiliar. Target area faculties in small groups learned production and utilization techniques. The major change in the past two years of the project was to substantially increase teacher participation in the project by providing reserve teacher service (two per day) to release teachers from classroom duty for instruction in the laboratory. This type of in-service training is unique to target area schools. Thus, teachers of the disadvantaged are given an instructional advantage in both the amount and variety of audio visual equipment available and materials necessary to provide more meaningful and vitalized learning experiences.

### The Objectives of the Program

1. To assist teachers in developing audio visual media materials designed to more effectively communicate with the child confined by his environment to a largely non-verbal world.
2. To decrease teacher reliance on verbal forms of communication.
3. To provide media and methods for individualizing student instruction.

4. To evaluate and select the most effective and efficient communication media to achieve defined instructional objectives.
5. To develop skills in producing audio visual materials.
6. To become comfortable and proficient in operating audio visual equipment.
7. To provide time, undistracted by classroom duties, to create innovative instructional programs designed to captivate interest, expand the environment of experience, and develop cognitive skills.
8. To provide consultative services for the development and implementation of systems of learning.

All teachers new to target area schools received up to three hours of instruction in the mobile laboratory. Experienced teachers participated in the program on their own request. There was sufficient time to provide service to every teacher who requested it. Following is a tabulation of target area schools and staff involved in the project:

Classroom teachers	535
Reserve teacher cadre	26
Teacher aides	25
Resource and helping teachers	10
Total staff	596
Elementary schools	22
Secondary schools	6
Non-public schools	8

#### Personnel

One media specialist is responsible for organizing the instruction and directing the program. He is employed full time for 42 weeks of the school year. He has a Masters degree in Curriculum and Instruction with a major in Audio Visual, and has taught at the secondary level for 20 years. Two reserve teachers per day are requested by building principals, and are not under the control of the media specialist, but they are considered as part of the project staff.

### Planning and Training

The original project proposal was written by Mr. E. Dudley Parsons, Consultant in Audio Visual Education, Minneapolis School District #1. The program of instruction was written by the media specialist presently conducting the program, under the direction of the Consultant. The program is continually revised as new technology and materials are developed and made available to teachers.

### Project Operations

The project has been renewed annually since its inception in 1966. This report covers the 1969-1970 school year from September through June. The media specialist maintains an office in the Audio Visual Laboratory located in the Minneapolis Schools Administration Building located at 807 N. E. Broadway. The program of instruction is conducted in the mobile laboratory which may be located at the building requesting the service.

The mobile laboratory is contained in a large van with inside dimensions of 22 feet long by 8 feet wide and 7 feet high. Power is supplied by a  $7\frac{1}{2}$  kilowat gasoline powered generator which provides ample power to operate all equipment and maintain comfortable temperature in all seasons. It is equipped with all types of audio visual equipment common to the schools being serviced. Included in the van are all types of production materials and files of instructional materials of value to teachers. The media specialist advises the teachers concerning the most effective media and methods available to achieve their specific instructional objectives and provides instruction in operating the necessary equipment or producing appropriate materials.

On a typical day, the mobile laboratory arrives at the school requesting service by 8:30 in the morning. Two teachers, released from classroom duties for one-half day by reserve teachers requested by the principal, come into the van for individually prescribed instruction. Usually they will have specific instructional objectives in mind as a result of having received descriptive literature concerning the program and production facilities available. There is no formalized course of instruction, but generally some time is spent initially on introducing the teacher to innovative techniques of media utilization and the operation of common equipment. Teachers seem to be most interested in developing materials of immediate value in their classrooms. Accordingly, a major portion of time is devoted to instruction in the production of instructional materials. The instruction is repeated in the afternoons with two other teachers similarly released from their classrooms.

### Budget

The annual budget of \$23,910 was provided by P.L. 89-10, Title I funds, covering a fiscal year from August 16, 1969 to June 30, 1970. The media specialist in charge of the program was solely responsible for the expenditures of the funds. Following is a breakdown of budget item expenditures:

Salaries (including reserve teacher time)	\$ 21,070	90%
Supplies (adequate instructional materials)	2,340	9%
Maintenance of the audio visual van	<u>500</u>	<u>1%</u>
Total	\$ 23,910.	100%

The per teacher cost of this project is \$2.00, determined by dividing the total operating budget by the total number of teachers or other instructional personnel who participated in the project. These expenditures are almost totally operational costs, since the "start up" costs were expended when the program was initiated in 1966.

The budget was deficient mainly in the area of instructional supplies. Teachers indicated some degree of frustration when supplies were not adequate for them to carry on an effective instructional media program after the audio visual van had moved on to another school. It would be highly desirable to provide more materials and production facilities in a centrally located center for teachers to carry on their materials production activities on their own time.

#### Results of the Project

The project continues to meet with enthusiastic response from participating teachers. Most responses are informal or verbal statements made by teachers who express their appreciation for the "lift" the program gives them by providing them with basic instruction in the utilization of instructional media and materials necessary to implement their programs of instruction. In addition, evaluation forms were given to some teachers on a spot-check basis. These give a more objective analysis of instructional values of the project. In some cases, the media specialist visited the classrooms of teacher participants subsequent to instruction in the mobile laboratory. In every case, there was evidence of more enthusiastic participation on the part of students in the learning process through the more extensive use of instructional media, and it must follow, more efficient and effective learning.

Since the program is most concerned with learning outcomes of teachers involved in the project, it would be advisable to devise and administer a pre-test and a post-test on media competencies. This test would not only make the teachers more aware of desirable media competencies to be developed, but would also provide a self-rating scale to indicate their progress toward becoming proficient in the production and utilization of instructional media.

### Dissemination and Communications

Publicity about the Audio Visual Mobile Van Project has been distributed widely and in various forms:

1. 16mm film, "Your Schools in Action", Minneapolis Public Schools, 1967. Contains a segment on the resources and operation of the mobile laboratory.
2. "The Audio Visual Van", a flyer published by the Minneapolis Public Schools in 1968 for general distribution to inform the general public and for information to be given to visitors to Minneapolis Schools.
3. "Federal Programs in the Minneapolis Public Schools", 1969. A booklet published by the Federal Projects Office for general distribution.
4. "The Audio Visual Van", Audio Visual Journal, University of Minnesota, General Extension Division, Department of Audio-Visual Education, Volume 4:1, January, 1970. State-wide distribution, and by exchange to other university audio visual departments.
5. Goodman, Mark E., "The Audio Visual Mobile Laboratory--In-Service Training at the Teacher's Door", Minnesota Journal of Education, March, 1970, p. 40. State-wide distribution to members of the Minnesota Education Association.

From time to time slides and black and white prints have been made showing the mobile laboratory in operation. These are available for teacher orientation programs as well as to the general public on request. The director is prepared to make visual and verbal presentations on this project.

The mobile laboratory has been displayed at meetings of the Minnesota Audio Visual Coordinators Association where upwards of 100 people toured the facilities and examined the instructional program. Delegations from out state school districts as well as from other state districts are occasional visitors to the mobile laboratory. Hand out materials are made available to them on request. No records of such visits are maintained.

### Recommendations

For the past four years this project has continued to make an impact on the use of instructional media in Target Area schools. Teachers often say it has the most direct influence on the quality of classroom instruction. They voice overwhelming approval of the continuance of the program on much the same basis as in former years.

The impact of the program could be greatly expanded if more schools and faculties could be included, and if a centralized media center could be established as a continuing in-service training facility and materials production center for teachers who need more than the one-half day per year of instruction time in the laboratory.